

REMARKS

Reconsideration of the application is respectfully requested for the following reasons:

1. Rejection of Claims 26, 33, 36, 45, and 46 Under 35 USC §102(b) in view of U.S. Patent No. 5,907,582 (Yi)

This rejection is respectfully traversed on the grounds that the Yi patent fails to disclose or suggest:

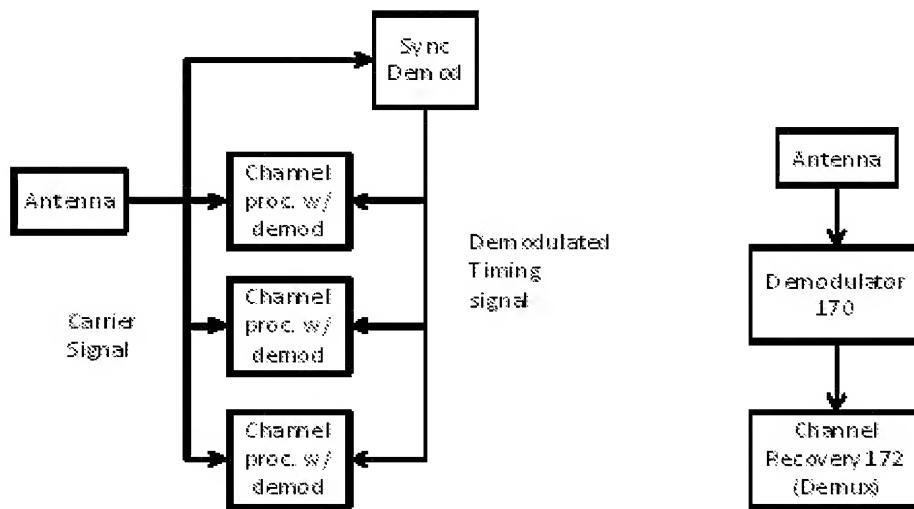
- a sync detection/demodulation unit that is in addition to the demodulator conventionally included for each channel processor, for recovering a separate timing signal that is in addition to the channel signals (the carrier signal of Yi is demodulated by demodulator 170, which then supplies the demodulated signal to a single channel processor 172 that recovers individual channels by demultiplexing them and applying error correction), or
- a plurality of receiver channel processors, each including a spread spectrum decoder, demodulator, and error correction decoder, and to which the timing signal from the sync detection/demodulation unit is applied (as noted above, Yi does not utilize multiple channel decoders) .

According to the claimed invention, the carrier received by the antenna is supplied to the sync demodulator *and* to a plurality of channel processors. The sync demodulator demodulates the carrier signal from the antenna to recover the timing signal. The channel processors each includes its own demodulator for demodulating the carrier signal from the antenna to recover respective channel baseband signals, which can then be decoded with the assistance of the separately-recovered timing signal.

In contrast, Yi teaches down conversion of the carrier followed by demodulation of the down converted and sampled carrier signal by demodulator 170, which supplies the demodulated carrier to turbo decoder 172 for channel recovery and error correction. There is no separate sync demodulator for recovering a timing signal, and only a single channel processor is provided, the

single channel processor lacking its own spread spectrum decoder or demodulator (though it does include error correction).

This difference may be graphically illustrated as follows:



THE CLAIMED INVENTION

THE YI PATENT

Unlike the sync signal of the claimed invention, that of Yi is included with the modulated carrier and recovered by the common down converter, digitizer, and demodulator, which then sends the demodulated digital signal to the single processor 172 for recovery of individual channel signals by demultiplexing. This is fundamentally different from the claimed invention, in which the signal received from the antenna includes not only the carrier, but also an added sync signal that is separately demodulated from the analog carrier rather than being recovered from the demodulated carrier. Furthermore, individual channels are recovered by demodulation of the analog carrier by multiple and separate channel processors, each with a spread spectrum decoder and demodulator.

According to the Official Action, the plurality of channel processors correspond to element 166, with col. 11, lines 37-54 teaching that the processors 166 each includes a spread spectrum decoder, demodulator, and error correction decoder, for recovering baseband signals.

This interpretation makes no sense. RAKE receivers 166 operate on different satellite signals, not on different channels, in order to recover the original carrier by “*orthogonal spreading sequences...which are designed to provide zero correlation between sequences, to combine the satellite, gap filler, and multipath signals without self interference,*” the multiple path signals being delayed in time. Such a multipath approach has nothing to do with the claimed invention, which instead provides an additional demodulator and timing signal, which is in addition to frame sync signals such as the ones recovered by sync circuits 168 of Yi. In Yi, the channels are separated by turbo decoder 172 and not demodulator 170, as is clear from Fig. 6. The sync circuits 168 despread the pilot signals to acquire frame sync, which is supplied along with the demodulated digital signal to the turbo (channel) decoder 172.

Basically, the Examiner has interpreted RAKE receivers 166 of Yi as the claimed channel processors, each of which includes a demodulation unit, and demodulation unit 170 of Yi as the claimed sync demodulator. However, RAKE receivers 166 of Yi are actually included in demodulation unit 170, not the other way around, while channel processing is carried out by a separate (and single) processor 172, and sync recovery is carried out by the one and only demodulator 170 in which the alleged channel processors, receivers 166, are included. **Thus, the claims of the present application cannot reasonably be interpreted as reading on the system of Yi, and withdrawal of the rejection of claims 26, 28, 36, 37, and 46 under 35 USC §103(a) is respectfully requested.**

Finally, it is respectfully noted that the Official Action refers to the Hladik patent in the last paragraph on page 3 and the first paragraph on page 4 of the Official Action (as well as in some of the Section 103 rejections). It is believed that this is a “cut and paste” error since the

rejections based on the Hladik patent were overcome by the Request for Pre-Appeal Brief review, and since none of the claims have been officially rejected under Hladik.

2. Rejections of Claims 27-32, 34, 35, 39, 42, 44, and 47 Under 35 USC §103(a) in view of the Yi patent and/or U.S. Patent Nos. 4,876,737 (Woodworth), 4,931,802 (Assal), 6,192,068 (Fattouche), 6,198,914 (Saegusa), 4,985,707 (Schmidt) and 6,466,569 (Wright)

These rejections are all respectfully traversed on the grounds that the none of the cited secondary references makes up for the failure of Yi patent to disclose or suggest a sync/demodulation unit that is in addition to the demodulation units of the individual channel processors, as claimed, so as to enable use of a mobile antenna to capture of relatively weak C-band satellite broadcasts (C-Band is recited in independent claims 49 and 50). While C-band satellites are of course known, the claimed invention provides a specific structure for greatly expanding their utility to encompass, for example, satellite radio broadcasts to mobile receivers. None of the references of record discloses this specific structure (the addition of a demodulator for a sync signal that is added after modulation of the channel signals, the sync demodulator being separate from the demodulators normally provided for individual channels (which include their own sync), nor do any of the references suggest modification of Yi's common demodulator and channel demux arrangement to provide such an additional demodulator (channel processors with demodulators plus sync demodulator, as claimed).

As a result, withdrawal of the rejections under 35 USC §103(a) is also respectfully requested.

Having thus overcome each of the rejections made in the Official Action, withdrawal of the rejections and expedited passage of the application to issue is requested.

Should the Examiner nevertheless feel that further amendments of a reasonable nature would expedite prosecution of the application, the Examiner is invited to telephone the undersigned at any time to discuss such amendments (though the undersigned does not believe

Serial Number 10/699,639

that any such amendments are necessary). Careful attention to the case would be appreciated considering the extended length of prosecution (five years, an appeal, and an entirely new rejection after the appeal).

Respectfully submitted,

BACON & THOMAS, PLLC

/Benjamin E. Urcia/

By: BENJAMIN E. URCIA
Registration No. 33,805

Date: December 9, 2009

BACON & THOMAS, PLLC
625 Slaters Lane, 4th Floor
Alexandria, Virginia 22314

Telephone: (703) 683-0500

S:\Producer\beu\Pending A...H\F\FORCE 699639\a03.wpd